

In Memory of Dr. Richard D. McKnight



Richard D. McKnight (Dick) first came to Argonne National Laboratory in the early 1970s to work on his Ph.D. dissertation and wound up spending his entire career there. He cut his teeth on the analysis of fast-reactor critical experiments, developing skills and perspective that served him well in all of his technical endeavors.

The use of experimental data and uncertainty analysis to understand calculational and nuclear data issues was a recurring theme throughout Dick's long career. That was at the heart of his analysis work at the ZPR-6 and 9 critical facilities. From those early days to the present, he was an active participant in the Cross Section Evaluation Working Group (CSEWG), especially in the area of validation. He was an important contributor to Argonne's work on data adjustment – using integral experiment data to adjust microscopic cross section data within their uncertainties. Near the end of

Dick's career, he had become a beacon of logic and insight into many nuclear data and analysis issues.

In his work to implement modern core-follow analysis of the EBR-II reactor in the 1990s, Dick was a key player in populating the Physics Analysis Data Base and using radiochemistry measurement data to validate the calculational analysis. In his work regarding post-9/11 terrorist threats, Dick contributed to the effort to combine measurement and calculational results to identify the source of potential so-called dirty bombs. In the realm of criticality safety, Dick advocated for safety limits informed by hard data.

Even more than his deep technical knowledge and ability, it was Dick's human qualities that made him so special and influential. Dick was polite, kind, considerate, generous and respectful. These attributes, in turn, won him respect. Dick was articulate, presenting technical positions with clarity and sound logic. Dick also was hard-working and a man of impeccable integrity. Everyone knew that, when he agreed to do something, it was sure to be delivered and he often would offer to do more than his share.

Dick was a leader. Whether it was advisory groups, conference session organization, working party subgroups, workshops, training programs, or city tours and evening entertainment, he was always willing to stick his neck out and lead. He served as the chairman of the U.S. Nuclear Data Advisory Group since its inception and as the U.S. representative to the OECD NEA Working Party on International Nuclear Data Evaluation Cooperation (WPEC) and Working Party on Nuclear Criticality Safety.

Dick was a major contributor of benchmark experiment evaluations and a respected reviewer for both the International Criticality Safety Benchmark Evaluation Project (ICSBEP) and the International Reactor Physics Experiment Evaluation Project (IRPhEP) since the early days of those projects. Dick was recognized and respected by his international colleagues. He was looked to by peers and students alike for guidance and understanding and was always willing to take the necessary time to answer their questions. Dick and his wife, Pam hosted the 2007 ICSBEP Meeting in Chicago, a memorable event for all participants.

A first-rate reactor physicist and an extraordinarily kind and principled man, Richard D. McKnight succeeded far more than most in leaving the world a better place than he found it. He died on 28 August 2013.